levels give an idea of the height of the hills, so with the Ordnance map azimuths, read to 1°, the dates of the use of the great and S.W. circles are approximately as under:—

	B.C.
Great Circle	1260
S.W. Circle	1075

We seem, then, to have made a step in advance. More accurate readings of the Ordnance maps and accurate determination of the heights of hills may vary the above values slightly. But that is an unimportant detail if it can be shown that we have a new method of dating what went on in prehistoric Britain at the time when the Athenians were building the Hecatompedon.

A great amount of local theodolite work has to be done, for while Mr. Lukis only referred to two outstanding stones at the Hurlers, there are many more marked on the Ordnance map; there are also others besides the "quoit" at Stanton Drew.

I am more rejoiced than I can say to know that this local work has already been begun under the best possible conditions. As it was impossible for me to leave London when the significance of the alignments was made out, I appealed to the authorities of University College, Bristol, and of the Royal Cornwall Polytechnic Society for aid. The principal of the college, Prof. Lloyd Morgan, together with Prof. Morrow and his engineering class, have already made observations at Stanton Drew, and Captain J. S. Henderson, of Falmouth, an accomplished surveyor, sent me last week from the Hurlers the angular heights along some of the alignments, the means of eight readings obtained with a 6-inch theodolite, both verniers and reversed telescopes being employed. Other students of science besides myself will, I am sure, feel their indebtedness for such opportune help. NORMAN LOCKYER.

BRITISH ASSOCIATION GEOLOGICAL PHOTOGRAPHS.

THE geological photographs committee of the British Association and its indefatigable secretary, Prof. W. W. Watts, are to be congratulated on the third issue, which completes the first series, of their admirable photographs. There are twenty-four photographs in this issue, all of great interest, showing much skill in technique, and considerable artistic power in the choice of the point of view from which the objects were taken. They treat of a variety of subjects, chiefly the action of wind and rain, frost and ice, and sea-waves, igneous intrusion, the character of sedimentary rocks, and structures due to faulting and folding.

There are two good pictures of the remarkable rain-eroded pillars of Old Red Conglomerate which occur at Allt Dearg, on the Spey, Morayshire, and remind us of the similar forms which may be seen in much younger deposits on the right side of the Brenner as we travel towards Italy. They were first figured by Sir Archibald Geikie, who provides a description to the photographs, in which he directs attention to the comparative rapidity of their formation, as shown by the fact that "some of these isolated stacks of conglomerate are capped by boulder clay, and their capitals may here and there be seen to have retained their covering of thick peaty soil."

The photograph of the tower of Eccles Church, an object made so familiar by Lyell's "Principles," is the last that was taken (in 1886), and the last that will be taken, for the tower itself was destroyed in 1895. Prof. Reynolds's photograph of the great Axmouth landslip gives a good view of the "mighty chasm which separated the foundering mass from the land." The original describers of this were Buckland and Conybeare, and a water-colour copy by Ruskin of Mrs. Buckland's drawing still hangs in the University Museum at Oxford. Of queer forms the "Rock and Spindle," St. Andrews, Fifeshire, photographed by Mr. G. Bingley and described by Prof. Bonney, and "Lot's Wife," Marsden, Durham, a "breccia gash" transformed into a sea-stack, described by Prof. Lebour, are among the quaintest; they would be good puzzles to set a student in examination. The most novel subject is the wind-worn surface of granite disclosed beneath the Keuper marl in the Mountsorrel quarry, one of the several proofs discovered by Prof. Watts of the desert conditions which prevailed in these islands and elsewhere during a part of the Trias period. We have selected this for reproduction.

FIG. 1.—Keuper marl resting on terraced granite surface; Mountsorrel Quarry, Leicestershire. Photographed by Prof. H. E. Armstrong, F.R.S.

As this is the last issue of the first series it is usefully accompanied by some introductory letterpress, which includes the names of the committee, a preface, table of contents, and other information. We learn from the preface that the idea of forming a systematic collection of geological photographs originated with Mr. Osmond W. Jeffs in 1889; to carry it out a committee of the British Association was appointed in 1890, and Mr. Jeffs acted as secretary until 1896, by which time 1412 photographs had been contributed. In 1895 Prof. W. W. Watts became secretary, and by 1903 the collection had grown to the magnificent total of 3754. It is housed in the Museum of Practical Geology, 28 Jermyn-street, S.W. The series issued to subscribers and just completed consists of a selected number (72) of these photographs, taken from negatives generously lent by their owners, and furnished with descriptions by many of the leading geologists of the day.

The success of the scheme is shown by the fact that it has resulted in a considerable profit; of this one half has been returned to the subscribers in the form of additional whole-plate photographs, and the other half will provide funds for carrying on the work of the committee for at least four years. In a strictly business undertaking it is to be presumed that a good slice of the profits would disappear in "wages of superintendence," and subscribers may therefore regard their additional photographs as a gift from Prof. Watts.

THE SOCIETY OF ARTS AND THE LONDON INSTITUTION.

ON Wednesday next a special meeting of proprietors of the London Institution will be held to consider a scheme for its amalgamation with the Society of Arts. Founded in 1805 by merchants and bankers of the City of London, given a charter two years later, and housed in its present imposing, if rather sombre, premises in 1819, the London Institution has done good work in its day. The object of its founders was to maintain, in what was then a central position, an extensive general library of reference, comprising works of intrinsic value and utility in all languages; to provide reading rooms for periodical publications and interesting contemporaneous pamphlets; and to promote the diffusion of knowledge by lectures and *conversazioni*. But since the foundation of the institution circumstances have greatly changed, and not to the advantage of the institution. In 1817, and for many years afterwards, the City contained a large residential population, which for a long time past has been gradually disappearing, until now the number of proprietors who use the institution as a centre of intellectual culture is comparatively small, and is more likely to grow smaller than to increase. In these circumstances the board of management has recognised that if the institution is to live and thrive some scheme must be devised for increasing its usefulness, and the proposal to amalgamate with the Society of Arts is the outcome of prolonged consideration of a difficult problem.

The Society of Arts carries on to a large extent work of the same nature as that for which the London Institution was founded, but whereas the institution has suffered from residential changes, the society was never more prosperous. But it, too, has had its ups and downs. In the early 'forties of the last century it began to show signs of decrepitude, and in 1841 a committee was appointed to examine its position and make recommendations. But little seems to have been done until measures were taken for obtaining a Royal Charter of Incorporation, which was granted in 1847. Then it was proposed to hold an exhibition of English industry. Prizes for modern industrial art were offered, and eagerly competed for, and by 1850 the membership had risen again to 1500. An exhibition of ancient and mediæval art was held which was very successful, and a proposal to hold an international exhibition culminated in the Great Exhibition of 1851. Since then the Society of Arts has done much good work in promoting industrial art and encouraging inventive genius. The prosperity of the 'fifties was followed by some lean years, but for a generation past it has been highly prosperous, largely owing to the sagacious guidance of its present secretary. Sir Henry Wood has always attached great importance to the constitution of the council of the society. He has not only sought for and found eminent men, he has got those who were willing to give time and attention to the affairs of the society, men like Sir Frederick Bramwell, Sir F. Abel, Sir W. Siemens, Sir Douglas Galton, Lord Alverstone, Sir J. W. Barry, Sir W. Preece, the Duke of Abercorn, and Sir W. Abney. All these gentlemen have served as chairmen of the council, and the society owes them much.

Both institutions are financially strong. The London Institution possesses a site which is worth at least 150,000*l*., besides a fund invested in consols of the present value of 31,000*l*. Its income in 1903 was 3583*l*., and its expenditure was 3616*l*. The Society of Arts has an annual income which last year exceeded 11,000*l*., a capital fund of about 20,000*l*., which has accumulated from surplus income during the last twenty years, and trust funds amounting to nearly 15,000*l*. What, then, are the inducements to the one institution and the other to consent to an amalgamation? It is not proposed that either should absorb the other. The suggestion is amalgamation into a single body for the promotion of science, art, and literature, and their practical applications, the members of each corporation preserving all their present rights, and sharing in the government of the new institution and in the direction of its future action.

The determining consideration with the Society of Arts is that the amalgamation would give it a permanent local building. The society does not own its premises. They were built for it by the Brothers Adam in 1774, but the lease has run out, and it is now practically a tenancy at will. Moreover, the building is inadequate for the growing needs of the society, and the funds at its disposal are not sufficient to enable it to build for itself, whereas by amalgamation with the London Institution, which would sell its Finsbury premises, ample funds would be available. It is believed that the accommodation required could be got for a sum of 100,000*l*., and a suitable site found "east of Charing Cross and west of Chancery Lane." If it were decided to erect a building of sufficient size there are several other societies who would probably be prepared to join in the scheme, separate and distinct accommodation being provided for each, much as Burlington House now accommodates a number of independent institutions.

The amalgamation would give the London Institution a large accession of annual income, and the revenues of the new institution would justify the extinction in perpetuity of the annual payment of two guineas now required from the proprietors of the London Institution, while leaving them a permanent property in their shares disposable by will, or otherwise, as heretofore, the Society of Arts having approved of this as one of the terms of amalgamation. It would be part of the arrangement that any proprietor preferring to withdraw from the scheme and to surrender his share would be enabled to do so, and be paid 25*l*. in discharge of his rights and interests in such share. Those who remained would be members of an institution of very great importance and influence, well endowed, and in a position to carry into effect many objects of the highest public, scientific, and economic importance.

It is not to be supposed that the proposed amalgamation will be carried through without encountering opposition, but it will probably be found that a very large majority of both institutions is prepared to accept it. In the opinion of eminent counsel, the effect of its charter is to constitute the London Institution in a legal sense a charity, with the result that its property and funds are impressed with a charitable trust, and cannot be divided or applied to any other purpose than that prescribed by the charter. Consequently, the property could not be divided up without serious risk. If the amalgamation is to be carried through, the most convenient and least costly way of carrying it into effect would be to promote an Act of Parliament for the purpose, and, granted the authorisation of general meetings, this will be done. But an Act cannot be got